

MINKE WHALE PROJECT



MWP RESEARCH NEWSLETTER # 10 (2008)

Can a minke season get any better than 2007?

The 2007 June-July minke season was the Minke Whale Project's (MWP) 12th successive year of field studies of dwarf minke whales and their interactions with divers and snorkellers in the northern Great Barrier Reef (GBR). This long-term research collaboration with the GBR dive tourism industry has led to many important discoveries about the biology and behaviour of the whales, and has helped to improve our management of the swim-with interactions, with the aim of ensuring that they are ecologically sustainable. While the collaboration between the MWP researchers, the dive industry, government management agencies and other stakeholders has continued to improve each year, so too have data returns from the industry's encounters with the whales. In spite of several weeks of bad weather during the 2007 season, data returns and reports from the industry showed a highly successful season overall, with 271 minke encounters (172 of which were in-water) totalling 404 hours of contact (the highest ever reported). Highlights of the 2007 season included re-sightings of some well-known whales from previous years, including 'Pavlova' (pictured right; seen each season since 2005), 'Skeletora' (seen each season since 2004) and 'Pretty Girl' (first identified in 2006). There were many reports of interesting behaviours observed through the season; in particular from Pavlova, who was encountered on six separate occasions by *Spoil Sport*, *Undersea Explorer* and *Nimrod Explorer*, performing her unusual 'pirouetting' behaviour up close to many of their passengers.



'Pavlova' the pirouetting whale returned to the same site on the Ribbon Reefs for the third consecutive year in 2007 and made many close approaches to divers and snorkellers. Photo by Matt Curnock.

In 2007 members of the research team (including eight new volunteers) spent 188 days at sea in total, collecting data from six different vessels.

From on board the primary research vessel *Undersea Explorer*, Alastair Birtles and PhD students Susan Sobtzyck and Arnold Mangott recorded a total of 326-350+ whales during more than 125 hours of interactions. The 2007 season was also the MWP research team's most successful season ever for data returns from vessel crew and passengers (see below for details). To encourage crew and passengers on the vessels to contribute to data collection for the research, a new DVD was developed by the MWP team and *Digital Dimensions* in 2007 for on-board use during the season. Entitled '*Meet the Minkes*', the DVD provides background information about the whales and the research, outlines the Code of Practice for in-water interactions, displays and describes a range of whale behaviours, and shows how to take good photos of the whales' colour patterns to help the photo-ID study.

The three PhD studies by Susan, Arnold and Matt will be completed prior to the 2009 minke season, and each study is expected to improve our knowledge of the whales and assist the sustainable management of these interactions. As the research team eagerly anticipates the 2008 season, we can't help but wonder what surprises and new discoveries lie in store. Can a minke season get any better than 2007? We look forward to finding out!

Fantastic industry data returns and support in 2007

The 2007 minke season resulted in the highest ever data returns from the industry, and the MWP research team are extremely grateful to the crews and passengers of the swim-with-minke permitted boats for their valuable contributions to the research. Data from the 2007 season included 312 Whale Sighting Sheets, 646 passenger questionnaires, 137 days of Vessel Movement Logs completed by skippers and crew, 204 Interaction Behaviour Diaries completed by passengers and crew, and 10,708 digital underwater images for the photo-ID study!

Contributing operators were recognised for their efforts at the 2007 Post-Season Workshop, held in Cairns on the 16th November. Certificates and highly-prized 'chocolate awards' were presented to operators and individual crew as part of the 5th *Minke Whale Project International Awards for Excellence 2007*. Award winners included *Explorer Ventures* (highest number of Whale Sighting Sheets + most complete whale sightings records), *Mike Ball Dive Expeditions* (highest number of Interaction Behaviour Diary entries by passengers and crew + most underwater video footage for whale identifications), *Poseidon Cruises* (highest day boat data returns), *Taka Dive* (highest number of Minke Whale Questionnaires + highest number of Vessel Movement Logs) and *Undersea Explorer* (highest number of still images for whale identifications + providing outstanding researcher access and support). We look forward to your continued support and data collection efforts in 2008.

Friends of the MWP and donations

During the 2007 season, some of the swim-with-minke permitted vessels began collecting a voluntary \$5 per day 'levy' from their passengers to help raise funds for the MWP research. Passengers were also able to donate individually to the MWP Fund, and those who donated \$100 or more were sent a 'Friends of the Minke Whale Project' Membership Package, which included a copy of the DVD 'Meet the Minkes', a wristband, colour brochure and newsletter, among other items. In 2007, these donations resulted in more than \$10,000 going directly to the MWP Fund (established and audited by James Cook University), which has helped to provide basic equipment for conducting our field research as well as providing additional support for MWP postgraduate students' project expenses. We extend our sincere thanks to all donors and friends of the MWP, as well as the operators for facilitating these donations. In particular, we thank *Undersea Explorer* and *Mike Ball Dive Expeditions* for their outstanding fundraising efforts in 2007.

Photogenic minkes win awards

Some of our well-known GBR dwarf minke whales have been making a splash in wildlife photography competitions recently, attracting international interest. Professional wildlife photographer Jürgen ('Yogi') Freund won first place in the Oceans category of the 2007 Nature's Best Photography Windland Smith Rice International Awards in the USA (winning entry shown at right, which is also featured in the Australian Geographic 2008 Desk Diary), and he received a special commendation in the Shell Wildlife Photographer of the Year competition (U.K.) in the category "Animal Portraits", for his close-up portraits of the highly interactive whale known as 'Pavlova'. The MWP team congratulates Yogi on his achievements! We included one of Yogi's stunning prints in the 'Friends of the MWP' Membership Package in 2007.



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Yogi's winning shot of Pavlova can be viewed in high resolution online at www.naturesbestphotography.com

The image of Pavlova on p.1 by Matt Curnock also picked up the Online Voters Award as well as Runner Up in the Animal Behaviour category in the 2007 Reef Check Australia Photography Competition, and it has since appeared on the BBC Science & Nature webpage and in Australian Traveller magazine.

Funding and sponsorship

The MWP research team have recently been sponsored by *Maui Jim Sunglasses* and *Probe Wetsuits*. This provides members of the team with important field equipment needed for the long hours spent outdoors on the top deck of the boat watching for whales, and the sometimes long hours spent conducting in-water observations. We are particularly grateful to Jo Fewster from *Maui Jim* and David Forbes from *Probe* for their support and enthusiasm for this research.

There are still many unknowns about these whales (e.g. migration, population size) which will require expanded research efforts to address. The MWP team will be applying for funding for such studies in the near future, however for the 2008 season we consider that it is particularly important to broaden the scope of the current Minke Whale Sightings Network to include more vessels operating from Cairns and those further south in the GBR (e.g. 'Pretty Girl' mentioned on p.1 was photographed by scuba divers at Viper Reef off Townsville in 2007). Core funding for the MWP has been provided by the GBRMPA since 2003, enabling the collection and analyses of Whale Sighting Sheets from the nine permitted operators, and for conducting Pre- and Post-Season Workshops with this industry and other stakeholders. We are now seeking additional funding to facilitate an expanded sightings network, to help better understand the relative distribution and movements of the whales in GBR waters during the winter months, and we will work closely with the GBRMPA to encourage more tourism operators and Reef users to report their minke sightings and donate copies of any photographs.

Three cheers for our volunteers!



MWP volunteers assisting the team, preparing folders for the 2007 Post-Season Workshop. (L-R: Arnold Mangott, Raechel Littman, Susan Sobtzick, Jess Hopf, Anita Giraldo, Dr Alastair Birtles, Lauren Hill, Rachel Amies, Miwa Takahashi and Marc Gregory.) Photo by Matt Curnock.

The MWP has had some fantastic volunteer support in 2007 and we'd like to thank our dedicated 'vollies' for all the hours of data entry and field assistance they've contributed. We're also very grateful to the operators who provided in-kind berths on trips during the minke season, allowing the volunteer researchers to collect important data for the research, as well as provide biology slideshows to crew and passengers whilst on board. We had eight volunteers during the 2007 field season: Gloria Hidalgo Figueras, Lauren Hill, Veronique Mocellin, Andrea Monge, Putu (Icha) Liza, Sam Noonan, Miwa Takahashi and Anna Taverna. All were very busy prior to the field season assisting with data entry of Minke Whale Questionnaires, Whale Sighting Sheets and Interaction Behaviour Diaries, as well as helping with coding of acoustic

recordings and digital images. The volunteers underwent two days of intensive training prior to their fieldwork, covering sampling methodologies for collecting quality data, and they were provided with detailed information on minke whale biology and behaviour to help them answer questions from passengers and crew on the vessels.

All vollies reported that they had a fantastic time in the field, observing and recording data from their whale encounters, as well as interacting with the vessel crew and passengers on board. Since the 2007 minke season we have had a number of new volunteers sign up to assist the MWP, while others have completed their JCU degrees and have returned to their home towns and countries - we wish them all the best for their future!

Update on Social & Economic Values of Key GBR Marine Species project

Having commenced in late 2006, with funding from the Marine and Tropical Science Research Facility (MTSRF), this research project aims to improve our understanding of the social and economic values of iconic marine wildlife species



on the GBR. Among the marine animals of particular interest to the study are marine turtles, sharks and rays, whales and dolphins and large fishes such as potato cod and Maori wrasse. To achieve this, the research team, led by Dr Alastair Birtles and Dr Natalie Stoeckl from the JCU School of Business and A/Prof Peter Valentine from the School of Earth and Environmental Sciences, are surveying GBR tourism operators and tourists to determine the importance and value of these iconic marine species to Reef tourism, including the economic impact of these species on the local and regional communities. Visitor surveys have been collected from Reef tourists interacting with marine turtles, sharks, potato cod and minke whales, from live-aboard dive tourism vessels based in Cairns and Port Douglas over the past 12 months. Interviews with industry Key Informants were also conducted to identify marine animals of greatest importance to Reef tourism. In addition expenditure surveys have been distributed to Reef operators in Cairns and Port Douglas to evaluate their economic impact within the community. Preliminary findings from passenger surveys of trips to the Far Northern Section of the GBR were reported to the RRRC in June of last year. These data give an initial indication of the high values of particular species encountered. More surveys are needed to assess these values more accurately. In 2008 further surveys will be conducted in the Cairns and Port Douglas region, as well as other important reef tourism destinations such as Townsville and the Whitsundays. It is hoped that the outcomes of this study will benefit the GBR tourism industry and contribute to the sustainable management of these iconic marine animals.

PhD update: Arnold Mangott (dwarf minke whale behaviour)



The 2007 season was once again a great one. I spent 41 days at sea, 36 days on *Undersea Explorer*, three days on *Nimrod Explorer*, and one day each on *Poseidon III* and *Aristocat IV*. I was able to observe 73 encounters, of which 38 were in-water interactions. This adds up to amazing 98 hours in contact with whales. A major focus for me during the 2007 season was to record the spatial and temporal distribution of minkes during interactions. I found that during in-water interactions, the majority of the surfacing animals (89%) stayed within a 60 metres radius of the vessel, most often surfacing in the area where the rope and the swimmers were located. This focussed spatial distribution around the vessel and swimmers, together with the extended interaction time (mean 160 minutes) is extraordinary and unknown among other cetaceans. In

November 2007 I had the opportunity to present these findings in the form of a poster at the 17th Biennial Conference on the Biology of Marine Mammals in Cape Town, South Africa. I'd like to thank all the passengers, crew and owners of the permitted swim-with-minke vessels for their fantastic support over the last two years. I can't wait to meet the minkes again in 2008!

PhD update: Susan Sobotzick (dwarf minke whale biology)



The past year was filled with excitement and some great outcomes for my project. Thanks to passenger donations to the MWP Fund, we were able to purchase a new video camera in 2007 allowing me to shoot minkes in high definition during my eight weeks onboard *Undersea Explorer*. The greater resolution of the new camera will enhance the size estimation study and the quality of the ID shots. In 2007 I shot more than 10 hours of underwater footage and received copies of >10,000 pictures donated by passengers and crew from nine different vessels; an unprecedented data return! As part of my PhD I evaluated the quality of the donated image data and their value for scientific research and I am very pleased to announce that passengers and crew on the boats have provided robust and high quality data. This enabled analyses of spatial and temporal patterns that would be impossible to achieve with a single research vessel. This is a fantastic outcome and I am very grateful to everyone who has contributed to the study by donating copies of their minke whale pictures. Keep them coming in 2008!

PhD update: Matt Curnock (sustainable management)



The 2007 season was another fantastic one for my PhD data collection. In addition to the hundreds of passenger questionnaires and Vessel Movement Logs collected by the industry, I conducted interviews with a sample of 16 highly experienced crew from the swim-with-minke permitted vessels (exploring practical aspects of minke encounter management) and had another series of in-depth interviews with 16 Stakeholder Key Informants to develop Sustainability Objectives for the industry. The Key Informants included owners and managers of the permitted swim-with minke vessels, staff of Commonwealth and Qld State government management agencies, cetacean researchers and members of conservation NGOs. After incorporating their feedback on the Sustainability Objectives, I facilitated a Mini-Workshop for stakeholders to review and adopt some of these Objectives in November 2007. Further stakeholder workshops will be held in 2008 to

review the remaining Objectives and screen potential Sustainability Indicators. I am very grateful to all of the stakeholders for their support for this process and for assisting my PhD research.

MWP outputs in 2007

The MWP research team had a highly productive year in 2007, with the following journal articles, conference papers and posters, reports and an interpretive DVD produced:

- Birtles, A., Curnock, M., Valentine, P., Sobotzick, S. & Mangott, A. (2007). Dwarf Minke Whale Tourism Monitoring Programme: 2006 Season Report to the Great Barrier Reef Marine Park Authority, 15 June 2007.
- Birtles, A., Valentine, P. & Curnock, M. (2007). MTSRF Preliminary Report to the Reef and Rainforest Research Centre and the Great Barrier Reef Marine Park Authority, 30 June 2007: Condition and trends of dwarf minke whale populations in the GBRWHA.
- Birtles, A., Valentine, P., Stoeckl, N., Mangott, A., Brown, V. & Curnock, M. (2007). Understanding the social and economic values of key marine species in the Great Barrier Reef. MTSRF Task 4.8.6 (a): Preliminary Report to the Reef and Rainforest Research Centre, 30 June 2007, 12pp.
- Curnock, M., Birtles, A. & Valentine, P. (2008). Developing Sustainability Objectives and Indicators for swim-with-minke whales tourism in the Great Barrier Reef. *CAUTHE 2008 Conference* (Working paper), 11-14 February 2008, Gold Coast.
- Dunstan, A., Sobotzick, S., Birtles, A. & Arnold, P. (in press). Videogrammetry as a non-lethal length estimation method providing population demographics of dwarf minke whales in the northern Great Barrier Reef. *Journal of Cetacean Research and Management*, xx: xxx-xxx.
- Mangott, A., Birtles, A. & Marsh (2007). Interacting dwarf minke whales (*Balaenoptera acutorostrata* subsp.) – spatial and temporal distribution of breathing animals in the vicinity of tourism vessels and their swimmers. *17th Biennial Conference on the Biology of Marine Mammals* (Poster presentation), 29 Nov to 3 Dec 2007, Cape Town, South Africa.
- Minke Whale Project (2007). *Meet the Minkes*: Minke Whale Interpretive DVD 2007.
- Sobotzick, S., Birtles, A. and Marsh, H. (2007) Evaluating the potential of whalewatching tourists to provide robust data for photo-identification of dwarf minke whales in the Great Barrier Reef. *17th Biennial Conference on the Biology of Marine Mammals* (Poster presentation), 29 Nov to 3 Dec 2007, Cape Town, South Africa.

What to expect in 2008

In 2008 the MWP research team will continue to collect important data in collaboration with the permitted swim-with-minke tourism operators, and we encourage the crews and passengers to continue reporting their observations and donating copies of their minke images to support this research. We will refine the Minke Whale Questionnaire (MWQ) for the 2008 season to include some new social Sustainability Indicators, which will be based on findings from previous seasons and the new Sustainability Objectives developed in Stakeholder Workshops. This will be the sixth field season the MWP is funded by the GBRMPA (for the Dwarf Minke Whale Tourism Monitoring Programme) and we will be submitting our Final Report to the Authority in 2009 based on analyses of trends in Whale Sighting Sheets and other data collected over the six-year period 2003-2008. The GBRMPA will conduct a review of the industry in 2009, including a reassessment of the swim-with-whales permits. We will be seeking new funding for 2009 to continue research and monitoring of long-term trends and the sustainability of the swim-with interactions and we hope to be able to begin addressing some of the major unresolved questions about the whales' migration, population and external threats.

Thanks for your support!

The MWP research team would like to express their sincere gratitude to the staff and vessel crew of the nine permitted swim-with-minke operators, the Great Barrier Reef Marine Park Authority (in particular Sarah Salmon, Anne Caillaud and Dr Kirstin Dobbs), the Queensland Parks & Wildlife Service (especially Jesse Low), the Commonwealth Department of the Environment and Water Resources (in particular Dr Iqbal Muhammad), the International Fund for Animal Welfare (in particular Mick McIntyre and Darren Kindleysides) and the Whale and Dolphin Conservation Society (especially Dr Mike Bossley) for their support for this research. Special thanks also to Bess Manley and the team at *Digital Dimensions* for their support and assistance with production of 'Meet the Minkes' DVD. We would also like to thank our *Friends of the Minke Whale Project* for their generous donations to assist the research, as well as all the many swim-with-whales participants who have contributed to the Project either financially, and/or by completing a Minke Whale Questionnaire, Interaction Behaviour Diary or donating copies of their minke photos to the photo-ID study. Last but not least, we thank the whales themselves for giving us such rich, inspiring and memorable experiences!

The Minke Whale Project research team

Members of the JCU MWP research team in 2007/08 include: Dr Alastair Birtles (Team Leader & Senior Lecturer in Environmental Management & Ecotourism), A/Prof Peter Valentine (Head, School of Earth & Environmental Sciences), Prof Helene Marsh (Professor of Environmental Sciences), Dr Natalie Stoeckl (Senior Lecturer in Economics), and PhD students Susan Sobotzick, Arnold Mangott and Matt Curnock. 2007 season MWP research volunteers included Gloria Hidalgo Figueras, Lauren Hill, Veronique Mocellin, Andrea Monge Rodriguez, Putu (Icha) Liza, Sam Noonan, Miwa Takahashi and Anna Taverna. We acknowledge the long-standing contribution to the MWP of our colleague and friend, the late Dr Peter Arnold (1949-2006).

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Australian Government
Great Barrier Reef
Marine Park Authority



CRC Reef MWP website: www.reef.crc.org.au/discover/plantsanimals/minke/index.html

New Minke Whale Project website under construction: www.minkewhaleproject.org

The GBRMPA Dwarf Minke Whale Tourism Monitoring Programme:

http://www.gbrmpa.gov.au/corp_site/key_issues/conservation/natural_values/threatened_species/dwarf_minke_whales